THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 394. JANUARY 25, 1896. Vol. VIII.

A Memorial to Professor Walley.

We are glad to see a movement has been made to enlist the profession in some scheme for commemorating the good work done by Professor Walley when he was with us. No doubt the late Professor did his work for the love of it and obtained satisfaction from his action; but a profession like ours, dependent for its advancement, to a considerable extent upon the work of a few men, cannot afford to be ungrateful. If only to stimulate others we must recognise the time and labour devoted to the interests of the profession—time and labour which might have been applied solely to the advancement of the individual. Walley was an honest, zealous, unselfish worker for us all. We hope the movement now started will be a great success.

A Photographic Discovery.

Capt. Fred Smith, in a letter, draws attention to the great possibilities suggested by this new discovery. Professor Röentgen has found that certain rays of light possess the power of penetrating such substances as wood, aluminium and other solids. It is thus possible to photograph objects between which and the camera very solid substances exist. The rays pass through human skin and flesh but not through bone, so that a photograph of the hand shows only the bones.

The latest experimenters are Dr. Spiess, of Berlin, and Professor Mosetig, of Vienna. The former took a purse, put a key and some coins into it, wrapped up the whole in black paper and laid it on a photographic plate. On the top of the whole he placed a board two fingers in thickness. He then exposed the whole to the rays electrically produced in the Röentgen tube. After about fifteen minutes the plate was removed, developed, and its picture thrown by limelight on a screen. With the greatest clearness one now saw the outline of the key and coins, while even the outlines of the purse were scarcely recognised.

Another photograph of a human hand showed clearly a broken bone in one of the fingers. A servant, whose hand had buried in it a piece of glass, had the damaged member photographed, and the resulting picture showed the piece of glass distinctly.

According to *The Times* Professor Mosetig has tested the value of the discovery to surgery. The photographs taken showed with clearness and precision the injuries caused by a revolver shot in the left hand of a man, and the position of the projectile. In another case, that of a girl, the position and nature of a malformation in the left foot were ascertained.

If this discovery, on further trial, proves to do all that is now claimed for it, we shall soon have the greatest physical aid to diagnosis in many cases of lameness that has yet been available to the veterinarian. It is as well perhaps to be not too optimistic. Even when the process is more developed the domestic animals may not be quite as clear and transparent as the hand of man.

"Grunting."

The discussion on this subject is proceeding, but the conclusions are not uniform. Everyone allows that a large percentage of horses that "grunt" are roarers or will soon become so. Nearly everyone has also experience of horses that have grunted for years, done their work regularly and yet never made a noise. Clearly then, grunting cannot be accepted as an unfailing sign of unsoundness of wind. Some gentlemen say that a good deal depends upon the quality of the grunt, but this leaves the whole question to the individual examiner, because no one can make all men discriminate between one grunt and another. Then there is the assertion that other diseases are accompanied by a grunt, and that a grunt always indicates some of these diseases. With the first part of the dictum we agree, but it has yet to be shown that grunting may not be merely a habit free from all disease.

We have arrived at this—that grunting in at least 90 per cent. of cases is an indication of unsoundness. Practical tact may perhaps be forgiven if it acts upon this by ignoring the exceptions. Scientific accuracy however forbids that we should rest satisfied with the assertion that "grunting" is decided unsoundness.

Annual Report for 1894 of the Veterinary Department of the Board of Agriculture.

In continuing our notice of this report we adopt the above heading, though not the one on the face of the report, because no other would convey a proper impression of the subject under discussion. A correspondent this week points out that we failed to remark in our previous notice how the Board had altered the title of the annual report so as to make it fit in with their assumption that no Veterinary Department now exists. This certainly was an omission, and we thank our correspondent for drawing our attention to this further evidence of the determination of the Board to suppress all possible reference to everything veterinary. They seem to hate the word, and to believe that by carefully avoiding it they may continue to deceive the public and Parliament into accepting "Animals Division" as correctly indicating the department which does nothing save attempt to suppress diseases of live-stock.

To return to the report of the Chief Veterinary Officer. Foot and mouth disease is the next subject he touches. In 1894 three outbreaks occurred—one in Essex, one in Cambridgeshire, and one in Kent. These were each isolated outbreaks and their origin is still in obscurity. Fortunately they were early and correctly diagnosed by veterinary surgeons, and the

measures taken to prevent their spread were successful. For this the Board deserve credit. If the infection had once passed to other animals much trouble and expense would certainly have been incurred before the disease could have been suppressed.

Rabies is the next disease referred to, and its increased prevalence is noted (from 40 cases in 1892 to 260 in 1894). It is also stated that no fewer than 25 persons died of hydrophobia during the year. The Chief Veterinary Officer lays down the following rules for meeting this disease—(1) The slaughter of all ownerless dogs, (2) the use of the muzzle, (3) prohibition of importation from Ireland and foreign countries, (4) the application of the regulations to "a very wide area" around the spot on which the rabid dog is discovered. We all know these rules are sound and the minimum necessary for success. The Board, we suppose, also knows this, but what do they do? They recognise that the imposition of these regulations raises opposition, and may lose votes at an election, so every President tries to force upon local authorities the unpopular necessity, and declines to use the powers he possesses to enforce them. The lives of 24 human beings, in 1894, were deliberately sacrificed to political exigencies, and each year the same thing in greater or lesser degree is permitted. Parliament allows this, but it imprisons a man who unfairly influences a vote. Dr. Johnson was not in error when he defined politics as "the last resort of a scoundrel."

Concerning anthrax Mr. Cope reports less prevalence than in the previous year. He gives a very full resumé of experiements with protective vaccine in France and Germany but wisely refrains from any hasty recommendation of its use in this country.

Glanders is reported as showing a considerable decrease—a result credited to the measures adopted by local authorities. We doubt this, and believe the decrease is due to the work of veterinary practitioners who now persuade their clients to adopt rational measures of prevention and extermination, Mallein is well spoken of as "an agent of incomparable value in the diagnosis of glanders" and the report concludes with this advice. "It would be to the advantage of local authorities if they determined to pay poor men to the full extent allowed under the Slaughter and Compensation Article of the Glanders and Farcy Order."

Next week we propose to notice the report of the Principal of the Animals Division—the name suggests some character from a comic opera by Gilbert and Sullivan.

Cruelty to a Man.

The following case is described in *The Daily News*, but not under the same title as that adopted here. The superintendent of a workhouse really prosecuted a pauper for refusing to work. If the difference of opinion between these two men had been taken before the magistrate by the pauper instead of the superintendent the facts would have been just the same, but the title of the case would have been altered. The superintendent would have been prosecuted for "cruelly ill-treating a man by working him in an unfit state."

"The magistrate at Marylebone, Mr. Bennett, had before him a miserable-looking man, old before his time, who was charged with refusing to perform his labour task in the workhouse. The poor fellow complained that he was "a bitter cripple," and that the task was beyond his powers. The superintendent of the workhouse cited medical evidence, but only on hearsay, that the man was shamming, and the hearing was postponed for a short time. On its resumption, the magistrate read a commication from the surgeon of the goal to the effect that the prisoner was suffering from diseased spine, feeble health and great loss of muscular power, and was quite unfit for work. Mr. Bennett discharged the prisoner. The goal surgeon's evidence established a doubt at the very least, and the accused very properly got the benefit of it. In how many other cases of the kind might not a doubt be established, if only a second doctor were called in?"

The last sentence is what I specially desire to draw attention to. It seems to be good law and commonsense and might well be applied to "other cases of the kind"—cases affecting horses as well as men. The expert evidence "established a doubt at the very least, and the accused very properly got the benefit of it." In cases where a horse is the subject of dispute two well-known London magistrates take quite an opposite view. They acknowledge no doubt, ignore the evidence, and exhibit prejudice and ignorance by a public statement that they would prefer their own diagnosis to that of the whole Royal College of Veterinary Surgeons.

The Jubilee Scholarship Fund.

We have been asked to intimate to members of the profession who have not yet subscribed to the above, that donations will be received and acknowledged by the Hon. Treasurer, Mr. F. W. Wragg, 17 Church Lane, Whitechapel, E., until March 31st, when the fund will be closed.

CASES AND ARTICLES.

THE NEED OF PREVENTIVE LEGISLATION FOR BLACK QUARTER IN CATTLE.

By W. Penhale, F.R.C.V.S., Barnstaple.

Symptomatic anthrax under its various titles, such as black quarter, murrain, felon, etc., is by far the greatest scourge to which young cattle are liable, and entails an alarming annual loss among this class of stock. It is the one disease of young animals above all others which the rearing farmer dreads, so much so, that empirical remedies are all but universally adopted on almost every rearing farm in the endeavour to stave off an attack of this fatal malady. Thanks to Arloing, Kitt, and other Continental workers and to Professor Penberthy in this country, the particular bacillus which causes black quarter, with its chief characteristics are perfectly well known. And it is somewhat surprising with our present knowledge of bacteriology that nothing has been done by legislation to prevent so serious a national loss.

It has been estimated that from ten to fourteen per cent. of our young cattle die yearly from this disease, and if there are 2,500,000 head of cattle in Great

Britain of the susceptible age, at a low estimate it is probable our annual loss amounts to over a million and a half of money. This is a large sum, which with proper precautions and the persistent application of a few rules for a period of years would undoubtedly be saved, and find its way into the distressed cattle breeders' pockets. The combined losses from diseases at present existing in this country, scheduled under the Contagious Diseases (Animals) Act, sinks into insignificance when compared with this sum. Our rural police, owing to the altered conditions of social country life, are not now so actively engaged but they would gladly, under the advice and guidance of a veterinary surgeon, see to the enforcing of the rules, which for reasons stated below would not need so much care as in anthrax. It is true the bacillus of black quarter is not easily acted on by disinfectants, but on the other hand our domestic animals are immune to this disease with the exception of sheep, and in this country, young cattle; neither is there the same danger as in anthrax with the blood. The black quarter bacillus is anaerobic, existing mainly in the tissues, particularly in those emphysematous tumours of the muscles characteristic of the disease and in the exudation into the large serous cavities.

As the bacillus will live for an indefinite period in moist earth the greatest care must be taken to prevent the soil from becoming contaminated. That the soil of many farms is so contaminated no one can doubt, on account of the prevalence of the disease on these farms; whilst often enough a certain neighbouring farm remains free. I am well acquainted with an estate on which formerly the losses were heavy from this disease until about fifteen years since the farm was well drained, and the whole of the pastures received a liberal top dressing of lime. There were no more deaths from black quarter for ten years, since when an occasional case has occurred. But with the present general method of dealing with carcases dead from symptomatic anthrax it is nothing short of a miracle that any meadows or pasture land can remain free from the spores of the disease. In my neighbourhood when an animal dies of black quarter it is usually hauled under a fence; the carcase skinned and allowed to lie in the open—a future danger to that farm and the neighbouring farms perhaps for years to come. For all the loose dogs of the country collect to enjoy the feast, and as is the well known method of the dog he gorges his stomach, returns home, and into a tuft of grass vomits its contents, to return to it when hungry. The danger possibly is not immediate either with this or with the remaining portions of the carcase, most likely by this time pulled all over the farm, at any rate never buried. It naturally follows that rain washing the flesh and tissues becomes laden with the bacilli, sinks into the earth to be returned again, no one can say when,

It is an old story now with which we are all perfectly familiar that in a damp climate like our own, the whole of the vegetable mould passes through the bodies of earth-worms every few years, and is thrown by earth-worms up to the surface of the ground. It was estimated by Mr. Darwin that ten tons of earth per acre is so thrown up every year. It must necessarily follow that germs lying under neath the surface will now and then be thrown up with it. It is well known, and a very casual observation will demonstrate that earth-worms work much more energetically in moist humid weather than in dry or during frost, and I have noticed over and over again that the disease is much more prevalent during the months of October, November, and December, the three rainy months of the year, than at any other season. But at times yearlings are attacked indoors and when feeding on dry food; in such cases the spores exist, without a doubt, in the hay or straw.

When the castings from earth-worms are dry they are often blown about by the wind as very fine dust, the hay, whilst as yet grass, may have some of the dust along with the spores adhering to it and so become the vehicle of the disease. At any rate along the vast plains of the Argentine Republic and in the neighbourhood of Buenos Ayres anthrax prevails to the greatest extent when the grass is covered with dust, but immediately after the rains, when the grass is washed clean the disease is reduced to a minimum. Quite recently in London we have seen how oats are capable of carrying anthrax germs in the same way. From what I have stated I think it will be clear why, with climates so diverse as those of the Argentine Republic and Great Britain, that anthrax is more prevalent in the former country during dry weather when enormous clouds of dust are being blown over the pastures, and black qnarter in this country during wet, or at any rate soon after, when earth worms are so active.

In time black quarter could unquestionably be eradicated from our farms if the Board of Agriculture could see its way clear to cause every animal dying of this disease to be disposed of in such a way that the microbes shall have no possible chance of escaping alive into the soil, herbage or water.

PECULIAR CASES.

By O. Trevor Williams, Llangefni.

A brown mare, 16 years old, having up to 1894 reared eight foals. During the season she was rearing the last foal she was put to the horse but no foal was got, Season 1895 she was served once and afterwards refused the horses. About the beginning of December the farmer was under the strong impression that the old mare was once more in foal. But about the 20th of the same month he observed the mare lying down in the stable and a white milky fluid running in a stream as big as a man's little finger from the vagina. He made the mare to rise, and as soon as she was up she manifested inclinations to lay down again, and as soon as she was down the discharge commenced again. He was then alarmed and sent for me. I proceeded at once to his assistance, and when arrived the farmer was holding a *tin* under the stream, and he had collected two large buckets full of the discharge. I examined the vagina and uterus; the os uteri was dilated sufficiently to insert the first two fingers, the mare still being down.

Treatment — Washed the uterus well out with hydrarg. perchlor., 1 in 1000, until the discharge became quite the same colour as the injection, gave a stimulant, and the mare started to eat some bran mash; prescribed tonics for a week, and since the mare is doing well.

Hydramnios in the Cow.

Two cases, both during last summer and in the same neighbourhood.

I. A strong heifer in first calf, not due to calve for six weeks, the farmer suspected *twin* calves seeing the the heifer so big. One day she was off her feed, and respiration distressed, and prefered the recumbent position. I was sent for, and not having seen exactly a similiar case I proceeded to examine the uterus, and found the os uteri sufficiently dilated to pass my hand through. I punctured the amnion with my fingers, and at once my hand and arm were in a well of water. When I removed my arm the water was expelled in great volumes — without any exaggeration quite twenty gallons. I then gave the cow a stimulant, and proceeded to further explore the uterus, found a calf inside, but the os uteri was not quite sufficiently dilated. I applied extract of belladonna to it, and told farmer when he would observe signs of calving to let me know at once, this being in the morning about 10 a.m. Second message came at 8 in the evening, that part of the calf was out and could not be removed any farther. On arriving there found the two fore limbs and head out, could not remove him any further, I then took his head off, and applied a strong line to the dissected skin, and fore feet, pushed him back, and examined abdomen, which revealed *congential ascites*, removed my hand and passed in again with my knife, punctured the abdomen to discharge the water; he was then removed without any difficulty. Surprising to say the heifer recovered splendidly without any lingering. I prescribed few doses of mineral tonics and nourishing food.

II. A similar case, only this cow was of a different breed, and had calved several before. Symptoms similar; "two months before time to calve," os uteri not well dilated. In this case it took two days to do so, fœtus similar to case I., great difficulty in delivering. Cow recovered; same treatment.

III. Another very extraordinary case I should like to put before your readers. A cow calved last November, a living calf; did well afterwards; and in seven weeks she showed signs of calving again. Owing to the man not being able to understand the case he requested my attendance at once. On my arrival a calf's feet were out through the vulva; I delivered without any difficulty a living calf. After being told the case, I examined the uterus carefully, but this time no other calves were left.

Probably many of the readers of *The Record* will hardly believe this thing possible, but the man only possessed two cows, the one mentioned and another expected to calve; and I can vouch the other calf seven weeks old. Cow did well the second time.

SUPPOSED LABURNUM POISONING.

By H. Cecil Welch, M.R.C.V.S., Bath.

On Thursday, September 5th, I received a message to go and see some goats that had been taken suddenly ill. Since the above date 14 have died and most of them have shown the following symptoms. Animal dull, stupid, a peculiar vacant expression about the eyes, suffusion of conjunctivæ, slight swelling and puffiness of the head, pale colour of visible mucous membranes, extremities very cold, partial paralysis of hind quarters, in some instances the affected were quite unable to stand, having no use whatever of their limbs, diarrhœa—the evacuations being of a pale brown colour, complete suppression of milk, breathing shallow and hurried, abdominal pain, in some cases tympanitis was present. Temperature varied from 101—104 F.

Treatment.—I had goats removed and properly housed, previous to this they had been tethered in the open, receiving a fair quantity of oats and hay daily, in addition to grass. Each animal was given mag. sulph. ʒi; they also had the following twice daily, pulv. opii. grs.viii', pulv. zingiber grs.xv, pulv. catechu grs.xxv, cretæ prep. 3 grs.; some of them made very good progress under this treatment. Two I had in the infirmary for nearly a fortnight, at the end of which time having apparently thoroughly recovered, were sent back to the farm. Some ten days afterwards the animals began to show symptoms similar to those already described, and died.

Having made several post-mortem's myself and not being satisfied, I decided to send the next carcases to Professor Penberthy of the Royal Veterinary College and he reported as follows:—

Received Sept. 23, 1895. No. 1. General condition fair, some swellings of the eyelids and face, no other superficial abnormality; mouth, pharynx, and first compartment of stomach healthy; mucous membrane of abomasum markedly inflamed, patches of congestion throughout the large and small intestines; liver showed spots of necrosis, kidneys and bladder slightly congested; lungs gave evidence of recent congestion, no appreciable change elsewhere. Among the contents of abomasum was a variety of small seeds, and some larger which much resembled those of the laburnum.

Received Sept. 27. No. 2. External conditions similar to those observed in No. 1. The vascular changes in the alimentary mucous membrane were not so marked. I could detect no evidence of necrosis of the liver; the large seeds referred to above were more numerous in the abomasum, which also contained some strips of vegetable matter suggesting a likeness to yew leaves, but too far digested for recognition. The lungs were more congested, the post-mortem changes in the carcase prevented satisfactory bacteriological examination.

No. 3. Skin intact, fæces about tail suggesting the existence of diarrhœa; face, mouth, pharynx, œsophagus normal; first three compartments of stomach normal, but crammed full of food, mostly oats; the abomasum in a state of catarrh, small intestines slightly catarrhal; cæcum much inflamed, the other

abdominal viscera healthy; lungs healthy and almost bloodless; heart gorged with dark blood, a large clot at the base of the brain. This carcase being fresh a bacteriological examination of blood taken from the heart was made, and no micro-organisms could be detected.

From the above symptoms, namely, evidence of abdominal pain, diarrhœa, laboured breathing, in conjunction with gastro-enteric inflammation, etc., it is suggested very forcibly to me that the goats have been the subjects of poisoning. There is nothing at post-mortem which indicates specially any individual poison, though the presence of laburnum seeds is suggestive. The adult goats only have been affected, the kids remaining free from disease. This is rather remarkable as they were similarly fed.

VETERINARY SOCIETIES.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting of the Association was held in the North Eastern Hotel, Darlington, on Friday, December 6th, 1895, at 4 p.m. P. Snaith, Esq., in the chair. There were also present Messrs. C. G. Hill, G. J. Harvey, and J. H. Taylor, Darlington; G. E. Gibson, Sedgefield; A. Neish and E. H. Pratt, Northallerton; W. Awde, Stockton-on-Tees; and Mr. Purvis, a visitor.

A telegram was received from Mr. A. Peele, who was unable to attend through indisposition, and a letter from Mr. H. Snarry, York, regretting his inability to be present.

Mr. HILL proposed, and Mr. Taylor seconded, the confirmation of the minutes of the previous meeting.—Carried.

A letter having been read from Mr. Jno. Nettleton, late of Northallerton, but now residing in London, tendering his resignation, it was proposed by Mr. Gibson, seconded by Mr. Harvey and carried, that the resignation be accepted with regret.

The SECRETARY reported that he had sent copies of *The Veterinary Record* containing the account of the differences existing between the Board of Agriculture and the veterinary profession to twenty Members of Parliament in the district. From a great number replies had been received of a favourable character, and promising that if the matter was brought before the House of Commons they would support the veterinary profession in their endeavours to obtain a proper recognition of their services at the hands of the Board of Agriculture.

Letters were also read from the Secretary of the Royal College of Veterinary Surgeons stating that the Council had decided to accede to the wishes of the Scottish and other veterinary associations, and make representations to the Board of Agriculture with reference to the scheduling of bovine tuberculosis in the Contagious Diseases (Animals) Act for the following purposes: (*a*) Notification; (*b*) Isolation of suspected animals; (*c*) Slaughter of all clinically diseased animals. Secondly: That means be taken for the veterinary inspection of dairy cows with a view to guard against the transmission of tuberculosis to man.

From the Lincolnshire Veterinary Medical Association asking for the opinion of the members as to whether "grunting in horses constituted unsoundness." Several members contended that it was impossible to commit themselves to an opinion, but that each case coming before them ought to be decided on its merits at the time of examination. Two or three gave it as their opinion that if a horse grunted he was sure to develop "roaring" at a later period of his life though clear at that time. Ultimately on the proposition of Mr. Snaith, seconded by Mr. Hill, it was decided that the letter be laid on the table for discussion at the next meeting.—Carried.

A committee consisting of Messrs. P. Snaith, A. Peele, C. G. Hill, W. N. Dobbing, Geo. J. Harvey, J. H. Taylor, C. T. Holmes and the Secretary were appointed after a certain matter had been discussed to gain information, and to report from time to time to the Association the result of their deliberations.

CASTRATION BY THE STANDING OPERATION.

By Mr. C. G. HILL, M.R.C.V.S., Darlington.

Mr. President and Gentlemen,—At the request of our worthy secretary, and I must say at rather short notice, I consented to read this paper before you to-day. I certainly did so with a great amount of hesitation, but thinking as a member of this Association it was my duty to do so I hope you will pardon any shortcoming, and the briefness of details, and if in any way I have contributed to the welfare of our meetings by this attempt I shall feel that I have only done what every member of such Associations ought to do.

For some months past *The Veterinary Record* has been teeming with correspondence on what has been called the castration craze under the heading of "Anæsthetics *versus* the standing operation." A few have written favouring the latter, but a great many have condemned it. The opponents of the standing operation have gone so far as to say that it is disgustingly cruel and painful, that it is an acrobatic performance, and that it is dangerous to both patient and operator. But one correspondent does not stop here, he states that it is a great cause of scirrhous cord. Scirrhous cord being due to a micro-organisms, viz., the micrococcus ascoformans, poor standing operator is thus credited with manufacturing organisms. Of all the adverse reasons this is the most absurd, for it is just as likely to occur, if not more so, in the cast subject. These gentlemen are in favour of the animal being cast and put under the influence of an anæsthetic and the subject castrated under the method the operator is the most skilled in. I am afraid these unbelievers either have never tried the operation in the standing position, may not even have seen it performed, or they may have been unfortunate in their first attempt.

The standing operators support their views by the following reasons: That it is the quickest, safest, least exertion, and the most humane method up to the present time we can adopt. The instruments used for the standing operation are the ordinary wood clams, serrated scissors, knife or the ecraseur, and the Huish-Blake castrator; the only appliance used for defence is the twitch. I believe some use a safety rope, but this is not necessary. As regards clams I will say very little, as I have only once used them. My objection to their use is that a second visit is compulsory in order to take off the clams, and that it is far from being a scientific operation. The *ecraseur* I have only used in the cast subject; with it I am afraid in the standing position there would be a tendency to drag on the cord if the animal should move very much. The instrument I use and find the most satisfactory is the Huish-Blake castrator. This instrument having a great amount of crushing power, brings the hæmorrhage almost to a minimum and acts immediately. My experience perhaps is rather small to that of many of my fellow practitioners, for castration in this district is mainly carried on by quacks. This season I have operated on 30 horses from one year to nine years

old in the standing position, also many calves and bulls.

Method of operation: If the box is roomy and light I operate there, if not I have the animal brought outside. Have a twitch put on, one man holding the twitch, I then examine scrotal region to ascertain that every thing is normal. Then with the castrator and knife ready, I grasp the right testicle with the left hand from the near side, let out the testicle with a bold and deep incision, break down with my fingers the faschia between vascular and non vascular portions of cord. In yearlings I cut this non-vascular with a knife, in older animals I crush with the castrator. My reasons for doing so is to do away with any undue hæmorrhage that may occur from the artery to the cord, which in some cases is very well developed. Then leave the testicle hanging vertically by the vascular portion of cord, and do the same with the left testicle. After this get hold of right testicle, pull it down, but on the castrator, taking care that the cutting edge is not next the scrotum. Close the blades with firm pressure lasting for a few seconds. As a rule the testicle will drop; if it fails to do so twist if off. Relax hold of handles gently, and the cord will slip up. Remove the other in the same way. The only after treatment I adopt is to bathe the part with an antiseptic solution. Keep the colt quiet for a few hours, and if weather fine turn him out, bringing him in at night for a week or two. Out of the 30 horses thus operated I had one case of secondary hæmorrhage 48 hours after operation. It was very slight, and after plugging scrotum soon stopped. One colt died three weeks after operation. The report was set about that the animal bled to death. I attended him a few hours before death, he was suffering from gastric tympany. I made a post mortem and found ruptured stomach, all the other organs healthy; so I do not attribute this to the operation at all. All the rest did wonderfully well.

What I claim for this method is quickness, safety, humanity, less assistance required, least painful. I have castrated a six-year-old stallion in less than four minutes, so there was not much time for any acrobatic performance on my part. One man as a rule is sufficient, and this to a country practitioner is an important item, for how many times have you had to wait an hour or two for men to be gathered together to assist in the casting. The horse during the operation shows very little evidence of pain, giving very slight resistance, no sweating, and after the operation will go straight to the manger and begin to eat. Respiration is in no way hurried, you do not get any stiffness nor straddling gait. In these days of keen competition, both fair and very much otherwise, we must look to ourselves and to our profession, and we must advance with the times. In some parts of England and Ireland the farmers and owners of horses may be of a more generous and sympathetic turn of mind to what they are here in the North, and prefer their colts to be operated on under the influence of an anæsthetic, and remunerate accordingly, but to my mind it is a mistaken idea if they knew the after effects of chloroform as I know, they would not be so keen to administer it for so short an operation. I have been chloroformed twice, and each time for a week after I was sick, and to this day chloroform has a nauseous effect on me. I would rather suffer a few minutes pain than such ill effects. The only thing that can be said in favour of chloroform in this operation is that it looks a little more scientific and produces on the onlookers wonderment and awe, but in my opinion the after effects does not warrant its use, and it increases the risk of the operation, besides the time spent in producing anæsthesia and bringing the subject round again, which sometimes is rather a difficult matter. Then again there is the expense of the drug used. The mere act of casting is a restraint to the horse, and he fights against it, and by the time you fix on chloroform muzzle he is covered with perspiration and testing the strength of the ropes, and your assistants are panting with the exertion thus caused. If we pressed upon our clients the fact of operating on their colts under chloroform they would laugh at us, and we would only increase the work of our unqualified opponents, so it behoves us to choose the method which we think is the most satisfactory to our patients, our clients, and to ourselves. The standing operation meets all three. I do not mean to infer that all can be castrated in the standing position but the majority can. Whether the animal be castrated standing or cast, I prefer the H. B. castrator, it is instantaneous in its action, and its great crushing power is sufficient to allay all undue hæmorrhage. Some veterinary surgeons include both vascular and non-vascular in the instrument together, but I think this is too big a strain on it. I have not seen any unpleasant symptoms in yearlings after cutting the posterior part of cord with the knife. I use Russell's knife for opening scrotum. I think it would be well for us to be less conservative in our ideas, and not throw cold water on new methods until we have given them a fair trial.

I thank you for your patient hearing to what I am afraid has not been a very interesting, but I hope it will lead to a good and practical discussion.

Discussion.

In the discussion which followed Mr. Neish stated that he had used chloroform for the last three years, but had observed no bad effects from its use. He had operated on colts standing and in the recumbent position, in the former by the ecraseur and in the latter by torsion. He preferred the recumbent position.

Mr. Gibson stated that he had operated on a great number of colts in the standing position with the ecraseur. He put the colt's head to the rack and gave the tail a hitch to the stall post. He thinks that there is not so much pain to the animals as by the other methods.

Mr. Harvey related his experience of castrating by the standing operation for the first time, and said that he preferred the recumbent position; but he thought at the present rate of pay for operating on colts in his neighbourhood they ought to be cast and secured by the owner instead of the operator.

Mr. Snaith thinks that chloroform is inadmissible unless it is specially requested by the owner of the animal, and he strongly objected to the use of wooden clams.

Mr. Awde stated that he had seen two cart stallions, six and nine years old respectively, operated upon by the Huish-Blake castrator in the standing position by the essayist, and had come to the conclusion that it was the best mode of operating on animals which had been handled; and that it was the least painful. In one case the animal never moved at all although the only restraint upon him was the twitch, and the operation was completed in four minutes. In the other the horse backed about a yard, but otherwise never moved a leg, nor showed any indication of distress in any way. Both cases did well, and there was very little swelling indeed.

Mr. Hill having replied, Mr. Harvey proposed, and Mr. Gibson seconded, a hearty vote of thanks to him for his kindness in providing the paper at such short notice. Carried unanimously.

Mr. Taylor brought forward a splendid specimen and related the history of the case, which was that of a mare which was under his treatment having fallen lame in the near-hind fetlock joint, which was enlarged after coming off a journey. She had physic administered and a cooling lotion applied to the part, but little or no improvement was manifested so she was destroyed. The synovia in connection with the joint was blood-tinged,

and there were extensive ulceration of the articular cartilage.

Mr. NEISH mentioned a case of suppurative cellulitis, and remarked on the intractability of these cases to treatment adopted, and asked for the views of the members present as to the best medicinal agents to employ. Opinions differed, but sulphide of calcium was mentioned as a very useful agent to try in such cases.

W. AWDE, *Hon. Sec.*

ROYAL VETERINARY COLLEGE V.M.A.

The 223rd general meeting of the Society was held in the New Theatre of the College on Friday, January 17th, at 6.30 p.m. There were present: Messrs. Reeks, Hayes, and Pierce, and 62 members.

The first business of the meeting was the election of 7 vice-presidents in place of those gentlemen lately qualified and the following gentlemen were elected: Messrs. Harber, Woodward, Verney, Wollatt, Kitchin, Stanley, and Heelis.

Mr. UPTON M.R.C.V.S., introduced a specimen of Navel Ill in the lamb and favoured the meeting with a few remarks thereon, which produced a lively discussion.

Mr. VERNEY then read an extremely practical and well prepared paper on "Castration of our Domesticated Animals and Cryptorchids."

The discussion was opened by Mr. Berry and the following gentlemen took part in it: Professor Hobday, Messrs. Hall, Wordley, Amos, Upton, Miller, Trewin, Reeks, Gillard, Buckingham. Collyer, and Wollatt.

Votes of thanks to the Essayist and Chairman terminated the proceedings.

F. CROWHURST, *Assist. Sec.*

GLASGOW V.M.S.

The weekly meeting of the Society was held within the College on Wednesday evening 15th inst. Mr. R. K. Rutherford, M.R.C.V.S., presided. There was a large attendance of members, and two visitors.

Mr. T. G. Palgrave read an essay on "Quittor and its Treatment"; and Mr. John McNeil contributed one on "Castration of the Monorchid" Both essays were ably written and well received. A discussion followed.

J. A. TODD, *Secretary.*

EXTRACTS AND NOTES.

METHODS OF SWIMMING CAVALRY HORSES.

The best means of settiug cavalry across rivers is a matter of such great importance that it is strange how little attention has been paid to it heretofore in the ordinary peace training of that arm. And yet no campaign of any importance has been fought in the past, nor will any be carried out in the future, without furnishing many examples of enforced passages of rivers where no permanent means of crossing exist within convenient distance.

The passage of the horses during the Hungarian Cavalry Training was carried out in different ways. A couple of men, stripped, with bladders or air-belts fastened under their arms and riding the leading horses, entered the water, urging their mounts with voice and leg until these lost the bottom and started to swim. Meantime the remaining horses of the troop had been led to the water, all four reins knotted on the neck, and as soon as the leading riders had gained a few yards' start the men of the troop, forming a semi-circle in rear of the horses, began to shout, crack whips, and splash, thus driving them into the water, after the leaders, in a drove. In some cases all crossed when once started, but in others a few turned back and refused obstinately to face the water again. These were at once taken to the rafts and, held by the men by the bridoon reins, were driven into deep water and thus towed across. This plan of swimming horses alongside rafts or light boats appears to be good, as, when once they start in the right direction, they practically take the bark with them at a fast pace as they swim, without any paddling being necessary. The great point to remember when swimming a horse in this way is not to endeavour to hold his head up out of the water. Give him lots of rein. A horse swimming naturally when unheld keeps his head very low, his nose pushed well forward, just his nostrils out of the water. In this position he swims best, and if held he should be allowed to place his head as he himself chooses. The mistake was sometimes committed during the operations at Zenta of endeavouring to hold up the horses' heads as they swam, with the result that they were checked, plunged forward to get free, soon became tired, and, in some cases, broke loose when almost completely exhausted. This is a most important point.

Another method, adopted in a few instances, was for the horses of each troop—25 in number—to be driven into the water behind rafts with horses held swimming alongside, which thus gave a lead across. Again, the men having stripped rode their horses across from bank to bank, but this plan was not much resorted to.

The methods of swimming horses in droves, already described, furnish other very important lessons. First, it appears that this system could be adopted with any chance of success only at points of passage where the banks shelve gradually to the water's edge, as it would be almost impossible to persuade horses to go down a steep bank and then to take to water, probably deep at such a point. In this case the plan of swimming alongside rafts or boats would have to be adopted. Again, of the two drove systems the more succcessful is that where men ride the leading animals into the water. But these riders should be careful to remain on the horses until they are nearly across, as otherwise the leading ones turn immediately to follow the men, as they swim away to a flank and make back to the bank from which they started. In fact, it would be best if the riders never quitted the horses the whole way across. This was brought out very strongly at Zenta, whole droves returning repeatedly because the men left the leading horses too soon, and this point cannot be impressed too forcibly on all who may have to carry out such operations. There is no difficulty in catching the animals on the opposite bank on arriving, as they are somewhat tired and make at once, of their own accord, for the nearest group of horses at their landing place.

It is important that each drove should be ready to follow the last into the water at an interval of a few yards only, to keep up the lead and insure a constant movement until all are across. But, above all, the head of the column must be correctly led. Horses on these occasions are like flocks of sheep, and all follow where the head leads. If once thoroughly scared it is difficult to make horses take again immediately to broad rivers, in droves, as they repeatedly break back and refuse to face the open water. It saves time, in such cases, to resort at once to leading across alongside boats or rafts. It is a point worth noticing that horses are certain to swallow a good bellyful of water in swimming, and would, in consequence, be to some extent unfit for rapid work immediately on landing.

At Zenta no horses were swum with saddlery on and men riding, but it may be of interest to mention that the Russian Cossacks practise this as an ordinary cavalry exercise. Whole squadrons have often been seen by the writer to enter the Dnieper in line, fully equipped, rear rank at increased distance, and to swim across a width of some 250 yards of rather rapid water without confusion or casualty.—*The Times.*

PATHOLOGY OF VACCINIA AND VARIOLA.

By S. Monkton Copeman, M.A., M.D.Cantab., M.R.C.P.,

Lecturer on Hygiene and Public Health Westminster Hospital Medical School.

In my former paper, I stated that the problem has been attacked from two separate points of view:—1. Experimental work having for its object the production—if that be possible—in the bovine animal, by inoculating it with small-pox lymph, of a disease indistinguishable both in its immediate local and in its subsequent general effects, from true vaccinia. 2. Microscopic pathology and bacteriology, including, I may add, the testing of bacteria derived from lymph, also on the bovine animal.

With reference to the first point, I was able to show that of the various observers who at different times have worked at this branch of the subject (among whom, of those now living, King, Simpson, Hime, Voigt, Fisher, Haccius, and Eternod, may be mentioned), all, with the exception of Chauveau, and his colleagues of the Lyons Commission, claim to have obtained positive results, in a certain number of their experiments, at any rate, as regard the production of typical vaccinia, after one or more removes, as the result of variolation of the cow or calf. In many cases, it is true, a long number of experiments have been abortive, especially among the older observers who made use, for the most part, of heifers or milch cows. Subsequent experience has shown, however, that success is much more likely to be obtained if, instead of heifers or cows, calves be used. On this account perhaps, Chauveau's want of success may be, in part, explained.

With reference to recent experiments on variolation of the calf, it is worthy of note also that different observers have obtained local effects in that animal, which in different calves of a series have varied considerably. The final result has, however, after a greater or less number of removes from calf to calf been invariably the same, the production, namely, of a local vesicle indistinguishable by any means at our command, such as the appearance and course thereof or the protective power of the lymph derived therefrom, from true vaccinia.

As far as I am aware, the most recent experiments of this nature which have been carried out are those of Dr. Klein and myself, the results of which have been published in full in the reports of the Medical Officer to the Local Government Board and in the *Journal of Pathology and Bacteriology* respectively. I do not therefore propose on the present occasion to refer to those experiments in detail, but I may perhaps add that, in my own experience at any rate, no question of possible contamination with vaccinia can possibly arise, seeing that all my work was conducted at the Brown Institution, that as a special precaution new scalpels were used, which were invariably first sterilised in a flame; that before and after use the table was thoroughly washed with carbolic acid and water, and during the intervals of use kept exposed to the open air.

As the result of all the work which has been done in this direction, there can, I think, at the present time, be no reasonable doubt as to the possibility of inoculating the calf with variolous matter with the result of producing thereby after one or more removes of a malady which is certainly no longer small-pox as ordinarily understood, seeing that it has now completely lost, when transferred to the human being, its original property of infectiousness. Although this is so, it is nevertheless capable of affording protection, just as vaccinia does, against subsequent vaccination or variolation. In this connection I may perhaps refer to certain experiments of mine on the monkey, which showed that not only is this animal susceptible to inoculation of vaccinia, which runs a course similar to that which is observed in the human being and the calf, but it is equally susceptible to the inoculation of variola. Furthermore, in the case of the monkey, small-pox lymph and vaccine, either human or bovine, appear to possess mutually protective power one against either of the others.

Turning next to the micropathology and bacteriology of variolous and more especially of vaccine lymph, I was able to bring forward certain evidence bearing on the important subject of the storage and preservation of vaccine lymph, as also on the relationship of variola and vaccinia, so far as microscopic and bacterioscopic examination of lymph can help us. These two subjects I desire particularly to consider on the present occasion.

It is a matter of common knowledge that vaccine lymph, whether stored in the liquid state or freshly obtained from a normal vesicle, usually is found when examined bacterioscopically to contain micro-organisms of various kinds, which have been shown by Crookshank, myself, and by other observers to be for the most part mere saphrophytes. To these, therefore, I have applied the term "extraneous." The practically universal occurrence of these saphrophytic organisms in vaccine lymph, along with chance of superaddition during or after vaccination, of pathogenic organisms by agency of careless people, whether vaccinators or persons having charge of infants, have been advanced as reasons for doing away with the practice of vaccination on the grounds of the possible harmfulness of the extraneous organisms liable to be introduced into the system at the time or in the course of vaccination. This argument however, so far as the microbes usually intimately associated with lymph are concerned, loses whatever weight originally attached to it, since I have been enabled to show that by thoroughly incorporating a certain amount of chemically pure glycerine with the lymph, and afterwards storing the mixture for a time prior to use, all the ordinary saprophytes found associated with lymph are completely destroyed, as is shown by the fact that no growth arises in any of the ordinary culture media inoculated with such glycerinated lymph. This statement applies equally to the streptococcus of erysipelas, which has on occasion got admission to vaccine lymyh. With reference to possible transmissions of syphilis and tuberculosis by the calf lymph, I need say nothing, seeing that it is universally admitted that the first of these two diseases is not transmissible to the calf, and that the bacillus of tuberculosis has never been discovered in vaccine lymph, bovine or human.

In glycerinated lymph we have therefore a preparation which, while even more active as vaccine than the original lymph, can, to the best of my belief, be produced absolutely free from the "extraneous" organisms which at one time or another have been isolated from fresh or stored lymph, with the possible solitary exception of *bacillus subtilis*, which, however, possesses no pathogenic properties. This statement, if it rested on my own authority alone, might no doubt be received with hesitation; but, seeing that since I first published in the *Transactions of the Congress of Hygiene* in 1891 the experiments on which it is based, ample corroboration has been

afforded by the fact that other observers, including Chambon, Ménard, and Straus in France, Leoni in Italy, and Klein in England, have arrived at similar results. In consequence no doubt of the apparent impossibility which existed until recently of isolating any bacterium from vaccine lymph which could be regarded as specific to vaccinia, several observers have sought to prove that organisms of a somewhat higher order than bacteria might be concerned in the production of this malady and also of variola. In this connection it may be mentioned that bodies believed to be of the nature of psorosperms or sporozoa have been described as existing in the vaccine vesicle by Guarnieri and Pfeiffer on the Continent, and by Ruffer and Jackson Clarke in this country; but as to this I was taken to task last year by Ruffer for mentioning the organisms described by Guarnieri and himself in the same category with those, the occurrence of which had been put on record by Pfeiffer and Jackson Clarke. As, however, the last named gentleman is to bring forward a paper giving the result of his researches, I do not propose to deal further with this subject on the present occasion except to put on record the joint opinion of Dr. Klein and myself to the effect that whatever may be the exact nature of these so-called sporozoa, they have not yet been proved to have any causal relationship with the diseases in question.

On the other hand, as I stated last year, Dr. Klein and I have concurrently, though quite independently, shown that in specially stained specimens of vaccine lymph, taken at a period antecedent to full maturity of the vesicles, minute bacilli can be demonstrated, often in considerable numbers, and in practically pure culture. These bacilli cannot be found or only with difficulty, in mature lymph, for the reason probably that they have by then given place to spores.

For some time it appeared impossible to obtain further evidence as to the *role* of these bacilli, as they altogether refused to grow on any of the ordinary culture media, and under either aërobic or anaërobic conditions, though this very fact obviously tends to show that they are not of a merely saprophytic nature. During the past year, however, certain experiments which I have devised appear to prove that it is possible to obtain a growth of these bacilli in a particular culture medium, and even to carry on such growth in secondary cultivation. The experiments which have been instituted in this direction are at present but few in number, and it is quite evident that the exact conditions essential to success have yet to be determined, but nevertheless I think that the subject is of sufficient interest to justify me in bringing to your notice the results that so far I have obtained in this sense.

As it seemed to me, the desideratum for the purpose of inducing growth of the supposititious micro-organisms was a medium which had not been artifically sterilised, which *a priori* should afford the necessary pabulum, and which at the same time whether it was to be considered aërobic or anaërobic—was secure in its circumstances against contamination. Hence the choice appeared to lie between the intraperitoneal fluids of one or another living animal and the hen's egg, which has already been made use of as an alternative culture medium.

As regards intrapereritoneal fluid I foresaw difficulty, in that it is apt to contain leucocytes, which might easily vitiate experiment, and accordingly I adopted the hen's egg as a matter of first instance. I had no experience to guide me as to the best method of carrying out the inoculation of the egg, or as to the period of incubation best suited for the object I had in view, and my attempts for a time, therefore, met with but small success. My inoculations were carried out by first cleansing the surface of the egg with corrosive sublimate solution and afterwards with alcohol, and then breaking a small hole in the shell by means of a sterilised needle and forceps. Through the opening thus made I mixed the yolk and albumen of the egg by means of a platinum needle, and then carried out the inoculation by means of a glass capillary pipette, which had recently been drawn out in the blowpipe flame. For the purpose of such inoculations I employed variolous crusts obtained from the small-pox ships of the Metropolitan Asylums Board. These crusts were rubbed up in a small glass mortar with a minimal quantity of sterilised normal saline solution. Of the resulting creamy emulsion a drop or two was then taken up into the glass pipette and the inoculation carried out. Finally, the small hole in the egg was closed up, either by means of a small pledget of sterilised cotton-wool soaked in collodion or with melted sealing wax. The eggs inoculated in this manner were then placed on beds of cotton wool and kept in the incubator at a temperature of 37°C. Here they were left for varying periods of time, a month being the period which was eventually found to be that which was most desirable.

On opening an egg thus treated I found that in its interior was contained a creamy material, which in great part had replaced the ordinary egg contents. This material examined in coverglass specimens appeared to contain a pure culture of one organism only, namely, a bacillus which morphologically was not to be distinguished from the bacillus which I have previously described as to be found in early vaccine lymph.

My next step was to attempt to grow it in subculture and to make observations also of the effect of its direct transference by cutaneous inoculation into the calf. As regards attempts at subculture in all the media most usually employed for such a purpose, including gelatine, sugar gelatine, agar, glycerine agar, sugar agar, and serum, these failed as subculture of the bacilli contained in vaccine lymph had always failed when the ordinary culture media are adopted, but with the calf it was different.

Calf Experiments.

Experiment I.—On March 26th, 1895, Calf A. was inoculated by eighteen incisions (fifteen on the abdomen and three on the scrotum) with a small quantity of the creamy emulsion contained in egg No. 5, which had been incubated for one month after inoculation with small-pox crusts, as already described. On March 30th scrapings were taken from the vesicular points which had appeared in the line of two of the abdominal incisions, and also from one of the incisions on the scrotum which had become slightly raised and red. With material thus obtained calf B. was on the same day inoculated by six linear incisions on a specially shaved area on the abdomen. Three incisions were inoculated with scrapings taken from the vesicular points, and three with scrapings from the incision on the scrotum of calf A. Three days later (on April 2nd) all six insertions appeared to be taking, though eventually one died away. On April 4th the calf was photographed, and on the same day a child was vaccinated from it by Dr. Cory. This child I have since seen. It has five good marks, and the mother told me that the vaccination "did splendidly," and that she had had no trouble with the child.

Experiment II.—On March 30th, 1895, calf C. was inoculated on the right thigh in twenty-four insertions with emulsion from egg No. 5, which had been kept in a pipette since the first calf of the series was done. By April 2nd three small vesicular points had appeared in the line of as many of the incisions. With scrapings of these I vaccinated myself, and Dr. Cory vaccinated a child, aged three months. The process in my own case had aborted by the fourth day, but the child "took" quite normally, and had, when inspected on the eighth day, five good vesicles with very little areola.

On April 2nd, also, calf D. was inoculated from the small vesicles on calf C. in ten incisions on a special

area of the abdomen. These all showed, on the fifth day, vesicles not to be distinguished from those of like age arising from the use of current lymph on the same animal.

Experiment III.—On May 7th, 1895, calf E. was inoculated on a special shaved portion of the abdomen, in 12 incisions from contents of egg No. 5, taken from a pipette on the previous day. On May 14th six small vesicles, which had appeared in as many of the lines of incision, were clamped and scraped, and the material thus obtained was employed on the same date for the inoculation of calf F. in twelve insertions. On May 18th six of these insertions had taken well. On May 21st eleven out of these twelve insertions showed a wide crust surrounded by a vesicular ring. The width of the crust was apparently due to the calf having been able to lick the places, as its collar had been removed by mistake on May 18th. Two of the more markedly vesicular of these "places" were clamped and scraped, and with the material thus obtained calf G. was inoculated by twenty insertions on a special area of the abdomen.

By May 28th all the twenty insertions made had "taken," and no appreciable difference could be distinguished between the vesicles which had arisen on the site of these incisions, and on those which at the same date had been inoculated with current lymph This calf was twice photographed by Mr. Kent.

From calf G. calf H. was inoculated on May 25th; and, further, this strain of variola vaccine, derived in the first instance from the egg culture, was carried on through two additional removes in the calf, after which it was not further cultivated.

On May 28th, 1895, lymph taken from vesicles at the third remove from the egg culture, were in my absence employed by Dr. Cory for the vaccination of a large number of children at the Animal Vaccine Establishment, owing to the fact that for some reason or other the current strain of lymph had failed to give good results in the two calves which had been vaccinated according to the usual routine. All these children showed excellent marks when inspected a week later, and several of them were photographed by Mr. Kent.—*The British Medical Journal.*

THE PASTEUR INSTITUTE AND RABIES.

The following interesting letter appeared in the *The Ealing Chronicle*. It was most opportune as being the final contribution to a discussion in which Mr. Syrett, M.R.C.V.S. had corrected some grave errors of a registered practitioner:—

To the Editor.

Sir,—When I started with my wife for Paris in charge of the eleven Sunbury children who were bitten by a dog reported rabid by the District Veterinary Inspector, it was with an open mind as to the Pasteur Treatment. Taking into consideration the prevalence of rabies, and in the face of the mis-statements which are being published in some papers which are likely to influence people in their decision whether to undergo treatment or not, I made it my business, as far as in me lay, to obtain exact statistics. As this is a question of life or death, and as I cannot but consider that the efficacy of the treatment is established, I trust you will give me space to make public the result of my enquiries.

Professor Roux, the discoverer of anti-toxin, informs me that the mortality among persons bitten by rabid dogs prior to the introduction of the Pasteur treatment was, on the best authorities on the subject, such as Dr. Leblanc and the Comité d' Hygène de la France:—

1. In cases of those bitten in the head, from eighty to ninety per cent.

2. In cases of those bitten on the limbs or body, twenty per cent.

I am indebted to the Professor for the reports of the Pasteur Institute for the years 1891, 1892, 1893, and 1894, from which I have extracted the following:—

Years.	Number of Persons Healed	Deaths.	Percentage of Deaths.
1886	2671	25	9.94
1887	1770	14	0·79
1888	1623	9	0·55
1889	1830	7	0·38
1890	1540	5	0·32
1891	1559	4	0·25
1892	1790	4	0·22
1893	1648	6	0·36
1894	1387	7	0·50
	15,817	81	0·55

As the Pasteur treatment does not profess to arrest the disease after it has reached a certain stage, but is essentially a preventive measure just as vaccination is, speaking generally, a preventive against small-pox, and as by experiments on dumb animal it has been proved that should a person die of hydrophobia within fifteen days of the termination of the course of treatment, that the disease had advanced too far before its commencement for it to be of any avail, and as such cases cannot therefore be counted as failures, such deaths have been eliminated from the above totals. They were in 1891, 1892, 1893, and 1894 respectively 4, 3, 2 and 5. I am not in possession of the figures for the previous years, but as the Institute Library is open for public inspection and a record of every case can be seen, doubtless they can easily be obtained. From this it is self-evident that the statement that Ethel Wilkins was discharged cured is absolutely false. I took special pains to find out if I might consider my charges safe at the end of the treatment. I was told that it was impossible to say, but that experience showed that after sixty days from the original bite, that persons who had undergone treatment might be reasonably considered so.

It is stated that this poor child was killed by the treatment, and Dr. Murphy is publicly accused of having caused her death because he advised that she should be sent. She was bitten on the left eyelid, the most dangerous of all places, and there should be no doubt in any reasonable person's mind that the virus had taken such hold of her before the treatment began that the disease had made too great progress for it to arrest its course. I had my charges under my eye daily, almost hourly, and I can say most positively that not for one minute did any feverish or uncomfortable symptoms show themselves during treatment, and I have heard of none since the children have been at home.

The value of preliminary veterinary examinations are being discounted and spoken of as worthless. Sir R. Nicholson had informed me that ever since the Brown Institute had been established, and the inoculation tests have been carried on there, that this test has in every case confirmed the reports of veterinary surgeons, based upon post-mortem examination.

Again, it is affirmed that the Pasteur treatment is practised without any method. This is not true. I was present when the children made their first visit to the Institute. A most minute examination was made of their wounds; every inquiry was made of the circumstances of each case by the doctor, who then ordered seven of the children to attend once a day for fifteen days for inoculation, two for eighteen days, one for twenty days, and one for twenty-one days. The last, a boy, had been bitten in the face, and he had to attend twice a day for the first three days.

One word more. Incredible as it may appear, yet it is still a fact, that someone had circulated broadcast in

Sunbury—one of the parents had three copies left at his door—a number of the *Star* containing the harrowing details of Ethel Wilkins's death, etc.—this, when the sorrowing parents were separated from their young ones, before the time for anxiety had passed. What good could this do? Rightly or wrongly, the children were undergoing the treatment. What could be gained by trying to frighten the parents out of their senses? One poor woman—her husband was at night work—I am told, paced the road near her house for hours in unutterable anguish.

What is this but refined cruelty? If the anti-Pasteurians wish for a hearing, such methods as this are the wrong way to get it; it must indeed be a weak case which needs to be urged in this way. No; these poor people are blinded by prejudice and misplaced fanaticism. If they have any reliable evidence let them put it forward. If they can prove that the Buisson is more efficacious than the Pasteur treatment everyone will welcome the news, but in a case of life and death let them stick to facts, instead of disseminating what I know to be deliberate untruths and misleading half truths; and, above all, let them refrain from inflicting unnecessary pain, posing the while, I suppose, as humanitarians.—Yours etc.,

T. H. VIGNE

The Vicarage, Sunbury, 6th January, 1896.

SALE OF LEEMING'S ESSENCE BY AN UNQUALIFIED SELLER.

At the Rathfriland Petty Sessions, on January 3rd, David Wilson, Church Street, Rathfriland, was prosecuted for that he, on October 17 last, did sell, and retail, and dispense a poison—to wit, cantharides, contained in a bottle of Leeming's essence—to Sergeant Nelson, R.I.C., Rathfriland, contrary to the Pharmacy Act (Ireland), 1875, section 30, he not being a person properly qualified in that behalf according to law. In a second summons the defendant was charged with having kept open his shop for retailing and dispensing poisons, contrary to the same Act.

Mr. Galway, solicitor, Belfast, prosecuted on the part of the Pharmaceutical Society of Ireland, and Mr. Crothers, solicitor, Rathfriland, defended.

Mr. Galway, in opening the case, said the defendant was a spirit grocer, residing in Rathfriland. Sergeant Nelson went into his premises on the date in question, and seeing there exposed a substance called "Leeming's essence"—a veterinary preparation for blistering horses—he purchased a bottle of it.

Sergeant Nelson, in his evidence, deposed that he purchased the Leeming's essence from Mr. Wilson's assistant, a young man named Thomas Hanna. Mr. Wilson admitted that the police had cautioned him against selling these so-called patent medicines. He bought a second bottle from the defendant on October 17. Cross-examined, witness said he got his instructions from the Pharmaceutical Society. The bottle was not labelled "Poison." Defendant told him he did not think it contained poison.

Professor Tichborne swore that the essence contained tincture of cantharides. Witness was a specialist on cantharides.

Mr. Crothers said that all he could do was to make a statement on behalf of his client. They did not deny that the bottle was set up for sale. Mr. Wilson did not know the essence contained poison; he used it principally for himself; and there was only one other person who got it from him. He would not sell more than three or four bottles in twelve months; and he intended not to get in another supply of the article when the present supply was exhausted. He was not aware that the essence in question contained poison. Under the circumstances he (Mr. Crothers) would ask their Worships to deal as leniently as possible with the defendant.

Mr. Galway, in reply, said the Magistrates had no power to reduce the penalties mentioned in the Act, and quoted the case of McGahon *v.* Kelly in support of his contention.

The Chairman, having read the section of the Act of Parliament, said it was perfectly clear that the Magistrates had no option but to impose the full penalty in each of the cases, £5 in each case, and order that one-third of the sum be paid to the person who had been the means of bringing the defendant to justice—Sergeant Nelson, he supposed. They would allow £1 costs in each case to meet the expenses of the Pharmaceutical Society in connection with the prosecution and the costs of the court.

KOREAN FARRIERS.

Frank G. Carpenter, writing about the peculiarities of Korea, says among other things:

"One of our ponies had to be shod, and another time we put shoes on the bull which carried the baggage. The pony was first thrown to the ground, and his four legs were tied together so that he couldn't possibly kick.

"Then the blacksmith pounded hoop iron shoes on his feet with a rude iron hammer. It was the same with the bull, though one man had to sit on his head while he was being shod. The iron seemed to be very good, and it comes from the mines in the northern part of the country. The tools of the country are made from it, and the farming tools are very ingenious, the three and four pronged hoes being quite as good as anything we have in America. They were making tools in this blacksmith's shop, and all the tools and ploughs are made by hand.

"The blacksmith had a rude bellows, which was worked by a boy who stood on a seesaw and by moving up and down pumped the fire into a blaze. In other places I saw bellows which boys worked by pulling a stick in and out like that of a squirtgun, and everything is rude in the extreme.

"Sometimes horses are shod by being strapped up to poles, so that only two of their feet can rest on the ground, and the band which goes around the belly holds the horse up while he is shod."—*Roxbury Gazette.*

BOREDOM OF ANIMALS.

Boredom is not peculiar to adults or human beings having discourse of reason. Children are tremendously bored on wet days if they do not read, but then they can always fight and do mischief, which ends in black eyes, a spanking, and emotion. Then they feel themselves alive, which is what they want, according to Aristotle. Happiness is an energy, and a person has no energy when bored. Dogs are the most bored of creatures. Their passion for human society makes them ennuyés when left alone or locked out. Very few dogs can take a walk by themselves, nor do they ever so walk except to hunt, and we teach them not to hunt by themselves, as well as we can. The dog has caught the sportsman's ennui from man, or man has caught it from the dog. On the whole the dog, perhaps, sets the worst example. Deprive him of society and the chase, and the hound, careless of his figure, deliberately overeats himself. Could he smoke and drink he would do so to excess. But show him a rat, or a place where his ardent imagination suggests the

previous existence of a rabbit, and the dog is all animation. Other domesticated animals know not boredom, except the cat, and then only when the human beings present are not in her taste. Then she is as dull as a wit in a society of commonplace people, and not at all more polite. But the sheep, the cow, are never bored. Devoid of sporting instincts, insensible of any pleasure save what arises in the course of duty, that is, feeding, the sheep knows not ennui, the cow is never bored. Yet stupid people are bored, a psychological problem difficult to solve. It may be mere affectation.—*Daily News.*

CHARGE OF CRUELTY AGAINST A M.R.C.V.S.

John Routledge was charged with ill-treating a horse at Windermere, by working it in an unfit state, and Frank Walls Garnett with causing the horse to be so worked.—Mr. R. F. Thompson prosecuted on behalf of the R.S.P.C.A., and Mr. Gatey appeared for the defendants.—Mr. Thompson said that there was no remarkable feature in the case, except that a veterinary surgeon had been summoned for aiding and abetting the person charged with the cruelty, but he was at a loss to see why a veterinary should not also be charged if his conduct tended to the commission of such offences as he should bring before them. In the case before the Bench, the defendant Routledge was charged with working a bay mare while in an unfit state. It was a horse of some age, and had done much work in Liverpool as a tram horse. By reason of this work it had been weakened in its feet and had contracted the disease known as ringbone, and now that the Tram Company had done with the horse they had got rid of it. Animals could only exhibit pain by outward signs, and to this the officer's attention was directed. The question was, was the animal lame and was it suffering? On examining the animal, the officer found it suffering from inflammation and pains; he also found the foot very hot and evidently painful, because the animal winced from his touch. If that was so, and the Bench believed it, that evidence was worth more than all the dogmas that all the veterinary surgeons in the world could suggest.

Inspector Mackay, R.S.P.C.A., said that on Friday, 29th November, he was near the fountain at Windermere, where he saw the defendant Routledge driving a bay mare attached to an empty cart. Seeing that the animal was very lame on the off fore leg, the stopped the defendant, and said, "You're driving a very lame horse," on which the defendant replied, "I know I am, but she is not so bad as she was." He said he only bought the mare a fortnight ago from the Liverpool Tram Company. Witness asked why he worked the animal when it was lame, to which defendant said that he had not got another, and that witness did not know how he was situated. He found the animal old and in fair condition, but suffering in the off fore leg from bony deposits of the pastern joints. It was much inflamed, very hot, and tender to the touch. He considered the animal quite unfit for work, and it was gross cruelty to work it. Witness asked if the animal had been treated or examined, and defendant said, "No, I am not going to pay any doctor's fees." He told defendant that he was bound to stop him from working the animal, and that with rest and treatment the horse might be worked on soft land. Defendant asked witness if he might take it to Bowness, and witness said he should not. Defendant afterwards went in the direction of the stable. This was at 1.45 p.m. About three p.m. he again saw defendant at the end of the street; he was leading the mare out of the cart and going in the direction of the village. Defendant said he was going to work the mare again, in defiance of witness or anyone else; he had been to Mr. Garnett with her, and he (Mr. Garnett) had told him to work the mare and not to mind what witness said. Witness went to see Mr. Garnett, and asked him if Routledge had been to see him. Mr. Garnett said he had brought a horse lame on the off fore leg from ringbone. Witness told him Routledge had said he (Mr. Garnett) had told him to work the mare and not to mind him (witness). Mr. Garnett admitted this. He then said, "You told him to go on working the horse, when it was lame?" on which Mr. Garnett replied, "Of course she's lame, and always will be lame, and I don't believe she will ever be anything but a cripple." Witness asked Mr. Garnett if he knew he was liable to be prosecuted if the horse was worked and it was lame, and he told him that he would report him if he found the horse was worked again. Mr. Garnett said "You report me and summons me if you dare." About twenty minutes after he again saw Routledge, who was in the front street with the mare attached to a cart, containing an empty barrel, and Garnett was with him. The mare was going lame on the off fore leg. He again ordered them to stop working the horse, and defendant Garnett said to defendant Routledge, "Go on, never mind him." They went on and witness lost sight of them. About 3.50 he again saw both defendants coming from the direction of Windermere station with the mare in the cart. Witness said to defendant Garnett, "What are you parading that horse through the town for? Why don't you let the man take it home? Can't you see how lame it is?" Defendant Garnett replied, "Of course she's lame; she's going home now." They then went along the Ambleside Road, and he lost sight of them.—Cross-examined by Mr. Gatey: He had been in the service of the Society for about four years. He held no veterinary certificate, but the society gave their officers special instructions, and he was six months under a veterinary surgeon. The veterinary surgeon, Mr. Garnett, had ordered the horse to be worked, but witness set opinion against his and held it now. Ringbone was not inflammatory when fully formed, but while going on lameness was very acute, the stiffness was often permanent. There was a distinction between lameness and stiffness. When the horse was lame it went dotting its head, when stiff it went simply with a stilted motion. He never saw defendant Routledge before that day. The inflammation was particularly acute inside the pastern. Mr. Garnett did not tell him that the ringbone was old, or that the animal was suffering no pain. The horse stood fairly well; it sometimes stood square and sometimes it pointed. Re-examined: On the 29th November there was inflammation, and the animal was suffering pain, and it was gross cruelty to work the animal on the road on that date.

P.C. Read, Windermere, said that on Friday, the 29th November, he was with the last witness near the station, where they saw the defendant Routledge driving a horse attached to a light farmyard cart. The mare was lame on the off fore leg. He could not say if it was in pain. The animal flinched when the Inspector touched its leg. Witness afterwards touched it, but could not say the joint was hot—he was no judge. About 3 p.m. he saw Mr. Garnett, who in reply to the Inspector, said he gave permission to Routledge to work it, and that the horse was lame and always would be. They saw the defendants again; Mr. Garnett was very excited, but witness did not hear what he said. Still later they saw the defendants once more. The Inspector said they should take the horse home, and Mr. Garnett said they were just doing so.—Cross-examined: He had seen Routledge with the horse and cart before, but he had never noticed the lameness.—By the Bench: He could not say there was any difference in the heat of the feet.—Re-examined: A number of persons had seen the animal. He could not say if the horse had been taken to any of the magistrates, but he had heard so.

The Chairman said, in answer to Mr. Thompson's question, he could say that it was brought to him,—a thing that was often done, and a most proper thing.

Joseph Darbyshire, M.R.C.V.S., said he had inspected the mare on the 4th of December. The mare was suffering from ringbone in the pastern joint on the off fore foot. On the inside it was in process of formation, but was formed on the outside. There was rather excessive heat in one part. If worked the animal would suffer pain. It would be cruel to use the horse, especially on a hard road, where the horse was unfit to work.—Cross-examined: The outer ringbone was of old formation, but in that part it would not stiffen the joint; the joint was not perfectly anchylosed. There was scarcely any stiffness from the old formation. That morning the horse seemed better in walking, and the foot was not so inflamed. He would be surprised to hear that the horse had been working regularly, but the horse had had a week's rest, when he saw it in December, and had probably been treated to get it to its present condition.

Lowden McQueen, assistant veterinary surgeon, said that on the 24th December he examined the mare in question; he found it suffering from ringbone on the off fore and walking lame, and there was a certain amount of heat and pain in the part. The part was not much inflamed, but the animal was unfit for work. Cross-examined: He found the mare suffering from ringbone divided into two parts. When the ossification was complete, there would be stiffness. He found heat on the inner side of the pastern, about the foot; this was an indication of inflammation, The horse went lame both up and down hill.

For the defence Mr. Gatey said that the case was unique in that a professional man was summoned for giving his opinion when called in. There was no attempt to show that the opinion of Mr. Garnett was corrupt, nor was it alleged that he had shown culpable negligence. He submitted the horse was perfectly fit for work. Having stated his case, he called

Robert McMillan Dunlop, Hole Herd, Windermere, a J.P. for the county, who said that about November he saw the mare, and on examination he found the animal all right. It walked all right, but seemed slightly stiff when trotting. He found no inflammation or heat. He could not say what it was suffering from.

Frank Walls Garnett, M.R.C.V.S., who affirmed, said he had been in practice five years, and was a lecturer to the County Council on veterinary matters, He examined the mare in question. He found it going lame on the off fore leg; the lameness was caused by a bony deposit round the pastern joint. The lameness was so slight that on the level road he had to have the animal trotted before he could distinguish it. It was caused entirely by the deposit of bone impeding the free action of the joint. The deposit was old, and the mare was quite fit for carting work. There was no inflammation or abnormal heat. The horse did not rest any leg, bearing equally on all; this indicated absence of pain. He had never seen Routledge or his horse before. Cross-examined: He simply gave the defendant his advice.—On a difference of opinion arising as to Counsel's putting a question to the witness, which it was contended by Mr. Gatey might implicate the witness, being a defendant, the Chairman observed, "You may answer what questions you like, Mr. Garnett, I cannot conceive why you are summoned."—Witness said he courted the fullest inquiry.—Cross-examination continued: Routledge had witness's advice. He saw the mare go lame, and said it would always be lame, not that it would be a cripple. Lameness was not always a reason why a horse should not be put into a cart on a hard road. He had heard Mr. Darbyshire swear that the ringbone was not fully formed. He did not agree with him; there was no inflammation. Ringbone was ossification of the joint, and might be either high or low. This case was a higher one, and the lameness after ossification was merely mechanical. If there was heat there was inflammation; there was none on that date, nor on any other date. He had not attended to the horse nor given any orders as to any treatment. He took the horse to Mr. Puckle, but did not give him his (witness's) opinion; he merely took it to let the magistrate form his own opinion. He did not tell Mr. Puckle that the horse was fit for work, so far as he remembered.—Re-examined: He took further steps to strengthen his opinion, and called in Mr. Armstrong, of Penrith, and Mr. Thompson, of Aspatria, who supported his view.—William Harrison was also called.—Percy Wilkes, M.R.C.V.S., assistant to Mr. Rimmer, Kendal, said he had examined the horse that morning; the ringbone, he found, was of old formation and caused stiffness of the joint. There was neither heat nor pain, and the horse would not suffer by being worked.—Without retiring, the Chairman said that both cases would be dismissed. He desired to say that it was a most extraordinary thing that a professional man, especially one of the standing of Mr. Garnett, should have been summoned on account of the exercise of his profession; it was such a thing as he never saw before in his life. The solicitor for the prosecution had commented on the fact that the horse was taken down to his (the Chairman's) house for his inspection. That, however, was not a practice which had been usual at Windermere; it had been done on two or three occasions, and it was a very desirable thing to do, in order that the magistrates might see the animal for themselves and form their own judgment upon it The horse was brought down for him to see at the time, but, as far as he recollected, Mr. Garnett expressed no opinion upon the subject.—Mr. Gatey applied for costs.—The Clerk (Mr. Bownass) said costs had never been allowed.—Mr. Thompson said he had appeared for the society in hundreds of cases, and he had never seen costs allowed in cases that had been dismissed.—The Chairman: I think in this case the magistrates agree they will allow costs, except as regards the advocate's fee.—*Kendall Mercury and Times.*

A WALLEY MEMORIAL FUND.

The following circular has just been issued. We wish the movement every success for no man worked for his profession more honestly and sincerely.

Royal Dick Veterinary College,
Edinburgh, 17th January, 1896.

Dear Sir,

A meeting was held here yesterday in pursuance of the proposal to raise a fund to memorialise the eminent services rendered to the profession by the late Professor Walley.

Principal Dewar was called to the chair. Letters were read from upwards of twenty veterinarians in England and Scotland expressing approval of the movement and offering co-operation.

The following gentlemen, having signified their willingness, were nominated as a Committee to carry out the objects of the memorial, and with power to add to their number:—

Principal Dewar	Mr. W. F. Barling
Mr. Thos. A Dollar	J. Welsby
W. E. Litt	J. Armstrong
H. M. Stanley	W. J. Mulvey
Charles Hunting	John Lawson
Thomas Campbell	W. Reekie
Principal McFadyean	H. Hunter
Mr. Alexander Lawson	A. J. MacCallum
John Malcolm	J. Thompson

Principal Dewar was appointed chairman of this Committee, and Mr. Finlay Dun, secretary and treasurer.

In order adequately and permanently to memorialise the devoted services which Professor Walley rendered to the advancement of veterinary science, it was resolved that the President and Council of the Royal College of Veterinary Surgeons, and the presidents and secretaries of the several veterinary medical societies be asked to allow their names to be enrolled on the Committee, and to assist in making the memorial a success.

In conformity with this resolution will you allow me to add your name to the Committee, and also promise a subscription ?

When a fuller, more representative council is formed, and more subscriptions come in, a general appeal will be made to the profession. The form which the memorial will take must depend upon the wish of the contributors and the funds obtained.—Yours truly,

FINLAY DUN, *Hon. Secretary.*

THE NEW PHOTOGRAPHY.

Professor Schuster, of Owens College, Manchester, writes to the *British Medical Journal* as follows :—

Professor Roentgen, of Würzburg, announces the discovery of remarkable photographic effects which he ascribes to a new kind of radiation. As the statements which have appeared in most of the daily papers are inaccurate in many respects, a short description of what Professor Roentgen claims to have accomplished may interest the readers of the *British Medical Journal.* The photographs which the Professor has kindly sent me fully bear out his statements, and there can be no doubt that a most important discovery has been made.

It has long been known that the highly-electrified particles which are projected from the negative pole of a vacuum tube produce a strong luminosity (phosphorescence) when they strike against the glass walls of the tube. Professor Roentgen's discovery is that, in addition to this phosphorescence, another radiation is produced which is capable of penetrating through all bodies, though not to the same extent—thus, aluminium is more transparent to this radiation than Iceland spar. The radiation passes in straight lines easily through paper, cardboard, or wood, and produces photographic effects after having passed through two complete packs of cards.

Professor Roentgen shows a photograph which has been taken in one room, the tube producing the radiation being in another room, the rays having passed through the door. One of the photographs in my possession shows a complete image of a compass needle, with the divisions into degrees of the circle over which the needle is placed. The compass needle, before being photographed, was placed inside a metal box. As flesh, skin, and cartilage are more transparent than bone, the photograph of a hand gives a complete outline of the bones of the hand and fingers, the outline of the flesh being only very faintly marked. It is not necessary to enter into the many possible medical applications which this photograph opens out.

One characteristic feature of this new radiation, which distinguishes it from all effects so far known of radiant light and heat, is that it cannot be refracted or reflected ; that is to say, it will psss through a prism of aluminium having an angle of 60 degress without being deviated from its original course. Hence lenses will not focus the rays, which will pass through a lens as they pass through an ordinary glass window. The photographs obtained are, therefore, of the nature of shadows, and their great sharpness is itself a testimony that the new radiation must be propagated in straight lines. The radiation produces fluorescence as well as photographic effects. Professor Roentgen does not give any information as to the length of exposure required, but any photographic plate or film seems to act. The photographs may be taken in ordinary daylight if the plate is kept in its dark slide, which will completely cut off all ordinary light rays and yet transmit the new radiation. It is, of course, at present impossible to say what this new radiation will turn out. Professor Roentgen throws out the suggestion that it may consist of longitudinal vibrations in the ether. One's first impulse is to ascribe it to vibrations of extremely minute length. But, in any case, the fact that the velocity of its propagation is the same in vacuo, glass and aluminium will be a puzzle to mathematical phycisists.—*British Medical Joarnal.*

"CHILDLIKE AND BLAND."

The following letter has been forwarded to us, and we present it to our readers without comment, except that the heading bears the name of a medicine company, "writ large," followed by that of Dr.———, Mgr.

" Prof.———, M.R.C.V.S.,
Edinburgh City Germany.

My Dear Secretary : of. Royal Veterinary College.

I will endeavor to drop to you a few lines. in order to find if there would be a way for me to stand an examination befor your Professors. By writing and through mail.

I would like to hold a Diploma from Your College, Not that I would have to have it to practic in this Country, But would like to have it in my Office. If there is a way for the Above. I will here mane the Books I have Studied and practiced Eight Years in this Country (Chauveau's Comparative Anatomy of the Domesticated Animals.) Fleming's Obstetrics)
(Williams' Principles & Practic on Surgery)
(" " " " on Medicine)
(Morton's Pharmacy, &c., &c.

Now my dear friend should you or could you furnish me with a diploma without any trouble of standing an Examination I should be pleased very much, And would be saved lots of trouble. As far as Safety is conserned you can assure yourself safe, But if this is an imposibility to furnish it in this style I am not afraid to take Examination as far as Domestic Animals is or are Conserned. Hoping that you can favor me in this if so let me know what it would Cost me in (Unite States money)

P.S. if I was an unmarried man I could Come to see and attend your College. But so an imposibility for me to do so.

I Remain, Anciouly awaiting your reply, Yours Very truly,

DR. ———, D.V.S.
———, Pennsylvania.

"Scared by His Own Head."

Professor Paul Czermark, of Graz, the *Daily News* Vienna correspondent says, succeeded in photographing a living skull without its fleshy integument by means of Professor Röntgen's x rays. An editor of the *Grazer Tagblatt*, eager to observe the process, offered to have his skull "taken." But when he saw the result he absolutely refused to have the picture reproduced or even shown to anyone except men of science. He is reported not to have slept a wink since he saw his own "death's-head."

Yorkshire V.M.S.

The Annual Meeting and Dinner will be held at the Queen's Hotel, Leeds, on Friday, January 31st, 1896, at 1.30 p.m. The President, Mr. J. Clarkson, in the chair. Dinner at 4 p.m. The Ex-President, Mr. J. Cooke, will preside. Business—Usual preliminary, nominations, &c.; to consider a letter from the Lincolnshire Veterinary Medical Association respecting "Grunting in Horses"; to consider a letter received from Professor Macqueen relative to the "National Veterinary Association"; the adjourned discussion on Mr. Pickering's paper read at the last meeting; the President will read his inaugural address.

Horses and Earthquakes.

It is a well-known fact, says the *Mascot*, that horses can hear sounds that are not perceptible to human ears. For days previous to the great earthquake in the Riviera the horses of that locality showed every sympton of fear, which continued without change of character, unless it was in the direction of frenzy, till the fury of the great convulsion broke forth. Not until a few seconds, however, before the earth began to tremble did human beings hear the subterranean rumblings. One writer from the scene says that in his opinion the horses knew that the great quake was on the way from seventy-two to one hundred hours before their masters heard or felt the first jar.

ARMY VETERINARY DEPARTMENT.

Extract from *The London Gazette*.

The Queen has been graciously pleased to give orders for the following appointment to the Distinguished Service Order, in recognition of the services of the following officers during the operations of the Chitral Relief Force:—

To be Companion of the Distinguished Service Order—Vet.-Lieut.-Col. R. Poyser, A.V.D.

REVIEW.

ELEMENTARY VETERINARY LECTURES.

For many years Mr. Henry Thompson, of Aspatria, has been known as a popular lecturer in Cumberland and Westmoreland on veterinary subjects, as well as on various questions relating to agriculture.

In this book he has published a series of twelve lectures which have been delivered at various centres for County Councils. The work is of an elementary character, and the remarks on each subject clear and practical, thus making it suitable for the use of students attending agricultural colleges and for farmers and stock-keepers generally.

The chapters are uneven in merit. Those on Digestion in the Horse (5), Digestion in the cow (6), and Parturition (12), are of a high order, whereas the first or introductory lecture strikes us as being more remarkable for its originality than for its scientific accuracy. In the preface the author says "Many of the ideas put forward are by no means generally accepted; notably the writer's opinion of germs and their action on the animal economy; he still holds that certain hygienic conditions and environments are required to render the body of the animal favourable to the entrance and subsequent development of these microbes." To test the significance of this paragraph we turned to Swine-Fever, page 152 and there read "It is said to be very highly contagious . . . . . To my mind this malady is of two distinct types—Simple and Contagious, and I have met with quite as many, if not more, simple, isolated or solitary cases, as contagious outbreaks. This however may be due to the influence of sanitation." This sort of teaching is decidedly original—but dangerous.

Elementary Lectures on Veterinary Science, for agricultural students, farmers and stock-keepers, by Henry Thompson, M.R.C.V.S. Whitehaven: T. Brakenridge and Co., Ltd., 1895.

OBITUARY.

COLIN GRESTY, Newgate Street, Accrington,
Graduated New, Edin., April, 1883.

SAMUEL HENRY ELLIS, Malden, Essex,
Graduated London, April, 1868.

NICHOLAS CARNEY, Openshaw, Manchester,
Graduated Edinburgh, April, 1863.

CORRESPONDENCE.

THE BOARD OF AGRICULTURE'S REPORT.

SIR,

I have taken your advice and obtained a copy of this report. You note a difference in the substance and its arrangement, but you have not referred to what I consider a still more striking difference—the title of the report. For some years it was plain and simple, being—"Annual Report of the Director of the Veterinary Department." This was clear and told exactly what the contents were likely to be about. Now the title is—"Annual Reports of Proceedings under the Contagious Diseases (Animals) Acts, Markets and Fairs (Weighing of Cattle) Acts, &c. &c.

This new title seems to be further evidence of the distinct policy of the Board to ignore the veterinary element and to suppress the major in the minor.

The mention of "Weighing of Cattle" on the title page also suggests the departmental trickiness with which everything is now twisted to excuse the use of the stupid name "Animals Division" and to keep up the pretence of the department having special labours other than the control of contagious disease of animals. Out of the 140 pages of the report just one page and a half is used to dispose of the weighing of cattle, and the work probably is represented by half a dozen letters and a few forms. All the rest is on disease and attempts to control it. The Board may falsify titles, but it can never hide its veterinary work.—Yours,

"PRACTITIONER."

THE NEW DISCOVERY IN PHOTOGRAPHY.

DEAR SIR,

The recent discovery in photography whereby the skeleton of a living man may, it is said, be photographed to the exclusion of other structures, is one which, if true, will revolutionise our diagnosis of lameness, and materially assist in the determination of some questions of soundness and unsoundness. Even if partially true there would probably be an opening for it in lending exactitude to veterinary science, and the day may not be far off when the photographer will be as often called in as the farrier.

Members of the profession who are amateur photographers will do well to determine the practical utility of this new discovery, which sounds of so much promise in the diagnosis of spavin, ringbone, and navicular disease.—Yours faithfully,

FRED SMITH.

15th January, 1896.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. W. Penhale, O. T. Williams, W. Shipley, A. E. Henton, J. A. Todd, F. B. O. Taylor, D. Young, R. Roberts.

Journal of Comp. Med. and Vety, Archives (Philadelphia, January), *Agri. Journal* (Cape)

Veterinary Societies—Addresses.

Alterations for this list must be duly notified by the Secretaries

BOMBAY V.M.A.
Pres: Major Jas. Mills, M.R.C.V.S.
Vice-Pres: Dr. S. K. Nariman, M.D., B. SC., L.V.SC.
N. D. Dhakmarwalla, Esq., G.B.V.C.
S. N. R Ranina, Esq., G.B.V.C.
N. Narsingrao, Esq., G.B.V.C.
Hon. Sec. & Treas: V. E. Vakharia, Esq., G.B.V.C.

BORDER COUNTIES V.M.S.
Pres: Mr. J. Soulsby, M.R.C.V.S., Cockermouth,
Treas: Mr. H. Thompson, M.R.C.V.S., Aspatria.
Hon. Sec: Mr. J. W. Hewson, M.R.C.V.S., Warwick-rd, Carlisle
Meetings, Second Friday of Feb., June, and October.

CALCUTTA V.M.A.
Pres: Mr. Greenhill, M.R.C.V.S.
Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah.

CENTRAL V.M.A.
Pres. Professor J. Penberthy, F.R.C.V.S.
Hon. Sec. Mr F. C. Mahon, M.R.C.V.S.,
93 Huddlestone-rd. Tufnell Park, N.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square. Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.
Pres: Mr. F. Case, M.R.C.V.S., Swaffham
Hon. Sec.: Mr. W. Shipley, Jnr., Southtown, Gt. Yarmouth
Meetings, Second Tuesday, Feb. and July.

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. J. A. Todd.

VET. MED. ASSN. OF IRELAND.
Pres: Mr. T. D. Lambert, F.R.C.V.S. Store Street, Dublin.
Hon. Sec. Mr. J. McKenny, M.R.C.V.S.,
116 Stephens-green-west, Dublin.

LANCASHIRE V.M.A.
Pres: Mr. Joseph H. Carter, F.R.C.V.S., Burnley
Hon. Sec: Mr. Harry D. Chorlton, M.R.C.V.S.,
97A Oxford Street., Manchester.
Meetings, 1st Thursday in March, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres: Mr. T. A. Rudkin, M.R.C.V.S., North Street, Grantham
Hon. Sec: Mr. J. A. Robinson, M.R.C.V.S., Market Deeping.
Meetings, Second Thursday, Feb., June and October.

MIDLAND COUNTIES V.M.A.
Pres: Mr. G. Wartnaby, M.R.C.V.S., Burton-on-Trent
Hon. Sec: Mr. H. J. Dawes, M.R.C.V.S.,
Camden House, High St., West Bromwich
Meetings, Second Friday in Feb., May.
Second Tuesday in August, November.

NATIONAL VET. ASSOCIATION.
Pres: Mr. W. T. J. Bower, M.R.C.V.S., East Rudham, Norfolk
Sec: Prof. Macqueen, London
Treas: Mr. F. W. Wragg, F.R.C.V.S., Whitechapel, London.
Chairman of Prov. Com: Mr. W. Shipley. Jnr., F.R.C.V.S.,
South Town, Great Yarmouth
Sec. of Prov. Com: Mr. W. R. Mills, M.R.C.V.S.
Castle Meadow, Norwich

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. Geo. Morgan, F.R.C.V.S., 95 Stanhope-st. Liverpool
Treas: Mr. E. Faulkner, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S.,
Grosvenor Street, Oxford-st., Manchester

NEW SOUTH WALES V.M.A.
Pres: Mr. John Stewart, H. AND A.S.
Vice: Mr. Edward Stanley, F.R.C.V.S.
Hon. Sec. & Treas: Mr. A. P. Gribben, M.R.C.V.S.

NORTH OF ENGLAND V.M.A.
Pres: Mr. G. M. Mitchell, M.R.C.V.S., Sunderland
Hon. Sec: Mr. F. T. Finney, M.R.C.V.S,
20 Benshaw-road, Gateshead-on-Tyne
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF SCOTLAND V.M.S.
Pres: Mr. James Thompson, M.R.C.V.S., Aberdeen
Hon. Sec: Mr. W. Skinner, M.R.C.V.S., Old Meldrum

ONTARIO V.A.
Pres: Mr. G. L. Robson.
Sec: C. H. Sweetapple, Toronto.

ROYAL COUNTIES V.M.A.
Pres: Mr. A. L. Butters, M.R.C.V.S., Paddington. London, W
Hon. Sec: Mr. J. Sutcliffe Hurndall, M.R.C.V.S.,
Sussex Villas, Cornwall Gardens, South Kensington.
Meetings, Last Friday, Feb., June and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S, Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

ROYAL VETERINARY COLLEGE M.A.
Pres: Prof. Hobday.
Hon. Sec: Mr. Reeks, M.R.C.V.S.
Assist. H.S. Mr. F. Crowhurst, R.V.C., Camden Town, N.W.

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. John Cameron, M.R.C.V.S., Berwick-on-Tweed
Hon. Sec: Mr. P. Moir, M.R.C.V.S., 9 Kilmain Terr. Edinbro'

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. P. Snaith, M.R.C.V.S., Bishop Auckland.
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.M.S.
Pres: Mr. T. B. Goodall, F.R.C.V.S, Christchurch, Hants
Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants.
Meetings, Last Thursday, Mar., June and Sept.

SOUTH WALES AND MONMOUTHSHIRE V.M.A.
Pres: Mr. Joseph Temple, M.R.C.V.S, Aberdare
Hon Sec. Mr. A. C. Stewart, M.R.C.V.S., Cardiff.
Meetings, First Thursday in March, and Autumn.

WESTERN COUNTIES V.M.A.
Pres: Mr. C. Hedworth Golledge, M.R.C.V.S.,
Sherborne, Dorset
Hon. Sec: Mr. W. B. Nelder, F.R.C.V.S., Paul Street, Exeter
Meetings, Third Thursday, March and September.

WEST OF SCOTLAND V.M.A.
Pres: Mr. Thos. Campbell, F.R.C.V.S,. Kirkcudbright.
Treas: Mr. John Neil, M.R.C.V.S., Partick
Hon. Sec: Mr. Gordon Frew, M.R.C.V.S., Tureen St., Glasgow

YORKSHIRE V.M.A.
Pres; Mr. J. Clarkson, M.R.C.V.S., Garforth
Hon. Sec; Mr. Frank Somers, M.R.C.V.S., 4 Wade Lane, Leeds
Meetings, Last Friday in Jan., April, July, and October.